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EXAMINER

WASSUM, LUKE S

ART UNIT PAPER NUMBER

2167

DATE MAILED: 02/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/080,945

Applicant(s)

CHANG ET AL

Examiner

Luke S. Wassum

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 November 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Request for Reconsideration

1. The Applicants' request for reconsideration, filed 29 November 2005, has been received, entered into the record, and considered.
2. There were no amendments made to the claims. Claims 1 and 3-20 remain pending in the application.

Change of Correspondence Address

3. The Applicants' request for change of correspondence address is acknowledged. The requested change, to the address associated with customer number 58326, has been entered into the record.

The Invention

4. The claimed invention is a method of document retrieval including assigning concept labels to documents contained in a collection according to grammar rules, receiving a query, converting the query to a query concept using the grammar rules, and mapping the query concept to a concept label.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or

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with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1 and 3-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

7. Regarding independent claims 1, 13, 17 and 19, these claims contain limitations including pre-assigning concept labels based upon a grammar, and then generating a grammar based upon the concept labels, this 'generated' grammar used subsequently to convert a user query to a query concept. The use of two different grammars, one used to pre-assign concept labels, and a different one used to convert a user-entered query to a query concept, is neither disclosed nor described in the specification.

8. Claims 3-12, 14-16, 18 and 20, fully incorporating the deficiencies of their respective parent claims, are likewise rejected.

9. In view of the Applicants' remarks, the rejection of claims 1 and 3-20 under 35 U.S.C. § 112, second paragraph, is withdrawn.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1, 3, 4, 8-10 and 13-20 are rejected under 35 U.S.C. 102(b) as being anticipated by **Wical** (U.S. Patent 6,038,560).

12. Regarding claim 1, **Wical** teaches a computer-implemented method of retrieving information comprising:

- a) pre-assigning concept labels to documents contained in a collection, pre-assigning including parsing the documents automatically with a grammar (see disclosure that the content processing system processes a plurality of documents to identify themes and classifies the documents in categories in the knowledge base; see also disclosure of theme vectors, col. 6, line 34 through col. 7, line 2; see also col. 8, lines 1-11; see also extensive disclosure of the content processing system, col. 27, line 14 through col. 29, line 30);
- b) generating a grammar around the concept labels (see disclosure that the knowledge base, analogous to the claimed grammar and grammar rules, links terminology having, *inter alia*, a usage association, meaning that the association is based upon the actual usage of the terms in documents, thus rendering inherent the generation of the

grammar/knowledge base, based upon the actual usage of terms in documents, col. 2, lines 45-48; see also col. 9, lines 44-46);

- c) applying the generated grammar to a query to convert the query to a query concept (see col. 8, lines 14-15; see also disclosure of the identification of terminology having lexical, semantic or usage association with the query terms, col. 9, lines 34-53; see also identification of corresponding themes, col. 9, line 64 through col. 10, line 4); and
- d) mapping the query concept to a concept label (see disclosure of identification of a category associated with query theme, col. 10, lines 1-4; see also col. 17, lines 27-61).

13. Regarding claim 13, **Wical** teaches a computer-implemented method of document retrieval as claimed, comprising:

- a) pre-assigning concept labels to documents contained in a collection according to grammar rules (see disclosure that the content processing system processes a plurality of documents to identify themes and classifies the documents in categories in the knowledge base; see also disclosure of theme vectors, col. 6, line 34 through col. 7, line 2; see also col. 8, lines 1-11; see col. 27, line 14 through col. 28, line 24 for disclosure of grammar rules);
- b) generating a grammar around the concept labels (see disclosure that the knowledge base, analogous to the claimed grammar and grammar rules, links terminology having, *inter alia*, a usage association, meaning that the association is based upon the actual usage of the terms in documents, thus rendering inherent the generation of the

grammar/knowledge base, based upon the actual usage of terms in documents, col. 2, lines 45-48; see also col. 9, lines 44-46);

- c) applying the generated grammar to a query to convert the query to a query concept (see col. 8, lines 14-15; see also disclosure of the identification of terminology having lexical, semantic or usage association with the query terms, col. 9, lines 34-53; see also identification of corresponding themes, col. 9, line 64 through col. 10, line 4); and
- d) mapping the query concept to a concept label (see disclosure of identification of a category associated with query theme, col. 10, lines 1-4; see also col. 17, lines 27-61).

14. Regarding claim 17, **Wical** teaches a computer program residing on a computer-readable medium as claimed, comprising instructions for causing a processor to:

- a) pre-assign concept labels to documents contained in a collection according to grammar rules (see disclosure that the content processing system processes a plurality of documents to identify themes and classifies the documents in categories in the knowledge base; see also disclosure of theme vectors, col. 6, line 34 through col. 7, line 2; see also col. 8, lines 1-11);
- b) generate a grammar around the concept labels (see disclosure that the knowledge base, analogous to the claimed grammar and grammar rules, links terminology having, *inter alia*, a usage association, meaning that the association is based upon the actual usage of the terms in documents, thus rendering inherent the generation of the grammar/knowledge base, based upon the actual usage of terms in documents, col. 2, lines 45-48; see also col. 9, lines 44-46);

- c) apply the generated grammar to a query to convert the query to a query concept (see col. 8, lines 14-15; see also disclosure of the identification of terminology having lexical, semantic or usage association with the query terms, col. 9, lines 34-53; see also identification of corresponding themes, col. 9, line 64 through col. 10, line 4); and
- d) map the query concept to a concept label (see disclosure of identification of a category associated with query theme, col. 10, lines 1-4; see also col. 17, lines 27-61).

15. Regarding claim 19, **Wical** teaches a computer program residing on a computer-readable medium as claimed, comprising instructions for causing a processor to:

- a) pre-assign concept labels to documents contained in a collection according to grammar rules (see disclosure that the content processing system processes a plurality of documents to identify themes and classifies the documents in categories in the knowledge base; see also disclosure of theme vectors, col. 6, line 34 through col. 7, line 2; see also col. 8, lines 1-11; see col. 27, line 14 through col. 28, line 24 for disclosure of grammar rules);
- b) generate a grammar around the concept labels (see disclosure that the knowledge base, analogous to the claimed grammar and grammar rules, links terminology having, *inter alia*, a usage association, meaning that the association is based upon the actual usage of the terms in documents, thus rendering inherent the generation of the grammar/knowledge base, based upon the actual usage of terms in documents, col. 2, lines 45-48; see also col. 9, lines 44-46);

- c) apply the generated grammar to a query to convert the query to a query concept (see col. 8, lines 14-15; see also disclosure of the identification of terminology having lexical, semantic or usage association with the query terms, col. 9, lines 34-53; see also identification of corresponding themes, col. 9, line 64 through col. 10, line 4); and
- d) map the query concept to a concept label (see disclosure of identification of a category associated with query theme, col. 10, lines 1-4; see also col. 17, lines 27-61).

16. Regarding claim 14, **Wical** additionally teaches a method in which pre-assigning comprises parsing the documents automatically with grammar rules (see col. 27, line 14 through col. 28, line 24 for disclosure of grammar rules).

17. Regarding claim 3, **Wical** additionally teaches a method in which the concept label represents a general notion (see disclosure of identification of a category associated with query theme, col. 10, lines 1-4; see also col. 17, lines 27-61).

18. Regarding claims 4 and 15, **Wical** additionally teaches a method in which the query is a text query received from a user (see col. 1, lines 11-25).

19. Regarding claim 8, **Wical** additionally teaches a method in which converting comprises applying a store of grammar rules to the query (see col. 13, lines 7-23; see also col. 27, line 14 through col. 28, line 24 for a more specific disclosure of grammar rules).

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20. Regarding claim 9, **Wical** additionally teaches a method in which the grammar rules map text to concepts (see col. 13, lines 7-23; see also col. 27, line 14 through col. 28, line 24 for a more specific disclosure of grammar rules).

21. Regarding claims 10, 16, 18 and 20, **Wical** additionally teaches a method and computer program further comprising instructions for causing a processor to:

- a) generate a list of the mapped query concepts (see Figures 10A and 10B; see also col. 9, lines 21-32; see also col. 13, lines 24-32); and
- b) display the list to a user on an input/output device (see Figures 10A and 10B; see also col. 9, lines 21-32; see also col. 13, lines 24-32).

Claim Rejections - 35 USC § 103

22. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

23. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

24. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

25. Claims 5-7, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Wical** (U.S. Patent 6,038,560) as applied to claims 1, 3, 4, 8-10 and 13-20 above, and further in view of **Braden-Harder et al.** (U.S. Patent 5,933,822).

26. Regarding claim 5, **Wical** teaches a method substantially as claimed.

Wical does not explicitly teach a method wherein the assignment of concept labels is performed by spidering the Internet and storing the location of discovered documents.

Braden-Harder et al., however, teaches a method wherein the assignment of concept labels is performed by spidering the Internet and storing the location of discovered documents (see col. 1, line 49 through col. 2, line 30).

It would have been obvious to one of ordinary skill in the art at the time of the invention to spider the Internet to record a mapping of document features to concepts and document locations, since the Internet comprises a source of valuable information that is larger than any single conventional database (see col. 1, lines 36-48) and using this technique would significantly ease the task of retrieving information from the Internet (see col. 1, lines 49-52).

27. Regarding claim 6, **Braden-Harder et al.** additionally teaches a method wherein the documents are HyperText Markup Language (HTML) files (see disclosure of crawlers indexing the Internet, including HTML documents, col. 1, line 49 through col. 2, line 30).

28. Regarding claim 7, **Braden-Harder et al.** additionally teaches a method wherein the document location indicators are Universal Resource Identifiers (see disclosure that the document records typically include the URL associated with the document, col. 1, line 66 through col. 2, line 5).

29. Regarding claim 11, **Wical** teaches a method substantially as claimed.

Wical does not explicitly teach a method wherein the list of documents represents locations of documents, although the fact that documents could be retrieved via a network from a remote location is taught at col. 5, lines 35-41, which implies the storage of the claimed location information.

Braden-Harder et al., however, teaches a method wherein the list of documents represents locations of documents (see disclosure that the document records typically include the URL associated with the document, col. 1, line 66 through col. 2, line 5).

It would have been obvious to one of ordinary skill in the art at the time of the invention to maintain the location of documents, since the Internet comprises a source of valuable information that is larger than any single conventional database (see col. 1, lines 36-48), and retrieval of information from the Internet requires the maintenance of location information.

30. Regarding claim 12, **Braden-Harder et al.** additionally teaches a method wherein the locations are Universal Resource Identifiers (see disclosure that the document records typically include the URL associated with the document, col. 1, line 66 through col. 2, line 5).

Response to Arguments

31. Applicant's arguments filed 29 November 2005 have been fully considered but they are not persuasive.

32. Regarding the Applicants' argument that the specification supports the claimed limitation of two separate grammars, the examiner respectfully disagrees.

The Applicants cite the specification at page 4 (actually page 3), lines 7-8, for support of the limitation wherein a new grammar is generated around the pre-assigned concept labels.

However, the examiner points out that (1) there is no disclosure elsewhere in the specification, including in the detailed description, that remotely mentions the generation of the new grammar, and (2) the cited portion of the specification is characterized as 'advantages' in the paragraph immediately preceding. The relevant passages:

Embodiments of the invention may have one or more of the
5 following advantages.
Documents in a collection are pre-labeled with concepts,
wherein each concept is a general notion or idea. A grammar is
written around concepts. The grammar is applied to a user query
and provides a direct mapping of the user query to appropriate
10 documents in a collection of documents found on the Web.

Since the disclosures of lines 6-10 immediately follow the indication in lines 4-5 that advantages of the invention are to follow, each of the sentences in lines 6-10 are interpreted as advantages of the invention. As such, the disclosure that 'A grammar is written around concepts' is interpreted as applying to the generation of the initial grammar used to pre-label documents with concepts.

Supporting this interpretation are the facts that (as cited above), there is no mention that relates to the generation of a second grammar elsewhere in the application, including in the detailed disclosure, and also that the pertinent sentence discloses that 'A grammar is written *around concepts*.' If this disclosure were meant to apply to the preceding sentence, it would be reasonable to expect that the sentence would refer to "*the* concepts".

The disclosure on page 3, lines 7-8, does not support the claimed limitation that a second grammar is generated 'around the concept labels'. The rejection of all claims under 35 U.S.C. § 112, first paragraph, is maintained.

33. Regarding the Applicants' argument that the **Wical** reference fails to teach the claimed pre-assigning concept labels to documents, the examiner respectfully disagrees.

The Applicants argue that the **Wical** reference teaches the assignment of theme vectors to documents, while the claimed invention assigns concepts to documents, and that there is a patentable distinction between a 'theme' and a 'concept'.

There is only a single instance in the Applicants' specification that discloses any hint as to their interpretation of the term 'concept'; on page 2, line 3, it is disclosed that "The concept label may represent a general notion." The examiner initially points out that this interpretation is not controlling, since the disclosure says that the concept label *may* represent a general notion.

This interpretation is, however, consistent with the commonly accepted meaning of the term 'concept'. See printout from allwords.com, defining 'concept' as "a notion; an abstract or general idea". The same dictionary defines the term 'theme' as "a repeated or recurring image or idea in literature or art". The two definitions, both embodying an 'idea' are not patentably distinct in the context of associating a concept or theme with a document.

Further supporting this conclusion is the fact that the **Wical** reference actually characterizes themes as concepts; see for example, col. 4, lines 29-31 "The search and retrieval system of the present invention utilizes sense associations to identify related terms and concepts."; see also col. 28,

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lines 50-61, disclosing in part "The theme vector processor...generates a theme concept for each theme term by mapping the theme terms to categories in the knowledge catalog. Thus, the theme concepts indicate a general topic or category in the knowledge catalog to identify the content of each document." The title of the **Wical** reference is "Concept Knowledge Base Search and Retrieval System".

The examiner would also point out that the act of associating a 'concept' with a document based upon grammar rules implicitly creates a 'theme' for that document.

The term 'concept', interpreted in light of the Applicants' disclosure, is not patentably distinct from the use of the term 'theme vector' or 'theme concept' interpreted in light of the disclosure of the **Wical** reference.

34. Regarding the Applicants' argument that the **Wical** reference fails to disclose the claimed generating a grammar around the concept labels, the examiner respectfully disagrees.

The fact that **Wical's** knowledge base links terminology based upon usage means that the association is based upon the actual usage of the terms in documents, thus rendering inherent the generation of the grammar/knowledge base, based upon the actual usage of terms in documents. If the knowledge base has been generated based upon the actual usage of terms in documents, then it must have necessarily been the product of an analysis of documents.

35. Regarding the Applicants' argument that the Braden-Harder reference fails to teach the "pre-assigning concept labels..." limitation, the examiner respectfully responds that the **Wical** reference is relied upon to disclose this feature.

One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

36. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luke S. Wassum whose telephone number is 571-272-4119. The examiner can normally be reached on Monday-Friday 8:30-5:30, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jean R. Homere can be reached on 571-272-3780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

In addition, INFORMAL or DRAFT communications may be faxed directly to the examiner at 571-273-4119. Such communications must be clearly marked as INFORMAL, DRAFT or UNOFFICIAL.

Customer Service for Tech Center 2100 can be reached during regular business hours at (571) 272-2100, or fax (571) 273-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Luke S. Wassum
Primary Examiner
Art Unit 2167